

DETAILED ACTION

Election/Restrictions

1. Newly submitted claim limitations in claim 22 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The limitation "wherein the at least one elastic element provides axial loading to the hollow shaft when an attempt is made to release the brake cable and the brake cable is blocked" requires a second spring not provided in the elected embodiment.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 22 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Item 5.1 is not disclosed in the written description. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

Art Unit: 3657

the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant claims “at least one elastic element which wholly supports the hollow shaft”. Spring 5 is held between thrust washer 9 and a part of force sensor emitter labeled as 5.1. The spring provides an indirect biasing force to the hollow shaft by way of the force-sensor emitter. The shaft is not supported by the spring alone.

Applicant claims “at least one elastic element having a first end coupled to the housing and a second end coupled to the hollow shaft” and “the at least one elastic element first end is stationary relative to the housing and the second end is stationary relative to the spindle shaft and brake cable”. The spring (5) is not secured to the thrust

Art Unit: 3657

washer or the force-sensor emitter. It exerts a compressive force but lacks the claimed positive connection.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant claims “at least one elastic element which wholly supports the hollow shaft”. It is unclear how the spring fully supports the hollow shaft.

Applicant claims “at least one elastic element having a first end coupled to the housing and a second end coupled to the hollow shaft” and “the at least one elastic element first end is stationary relative to the housing and the second end is stationary relative to the spindle shaft and brake cable”. It is unclear how the spring is coupled or fixed to the housing and hollow shaft.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5, 9-11, 13-16, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Petrak (US 2003/0075001).

As per claim 1, Petrak discloses a setting device (Title) comprising

a setting unit (Abstract) featuring a remotely-operated drive (Fig. 35C),
a telescopic device (Fig. 35) movable axially in a housing (1512) in a longitudinal axis of the setting unit, containing a hollow shaft (1522) and a spindle shaft (1510) connected to the hollow shaft in a manner that enables the hollow shaft to rotate and that enables the spindle shaft to undergo advancing movement relative to the remotely-operated drive and to thereby actuate a brake cable ([0173]),

a connection (0168]) enabling the transmission of a torque for actuating the brake cable from the remotely-operated drive to the hollow shaft, the connection enabling the hollow shaft to move axially relative to the remotely-operated drive, and

at least one elastic element (1596; [0171]) which wholly supports the hollow shaft and axially loads the hollow shaft, the at least one elastic element having a first end coupled to the housing and a second end coupled to the hollow shaft whereby the hollow shaft is supported by the housing through the coupling to the at least one elastic element, the at least one elastic element first end is stationary relative to the housing and the second end is stationary relative to the spindle shaft and brake cable, whereby the hollow shaft, spindle shaft and brake cable are moveable in an axial direction through deformation of the at least one elastic member while also being supported in the housing by the at least one elastic member ([0173]).

As per claim 2, Petrak discloses the setting device according to claim 1, comprising an electric motor (1506; [0129]) for the remotely-operated drive.

As per claim 3, Petrak discloses the setting device according to claim 1, comprising a transmission (1504) between the remotely-operated drive and the hollow shaft.

As per claim 4, Petrak discloses the setting device according to claim 3, comprising an intermediate gear wheel (1626) between a drive gear element (1624) of the remotely-operated drive and a drive gear wheel (1628) of the hollow shaft, the intermediate gear wheel and the meshing drive gear wheel of the hollow shaft being enabled to move axially relative to each other at least to the extent of an operational stroke distance of the at least one elastic element (The gears are capable of sliding axially under sufficient loading, Fig. 35).

As per claim 5, Petrak discloses the setting device according to claim 1, wherein the at least one elastic element is used as a correspondingly axially moved force sensor emitter for its longitudinal deformation for the axial advancing force acting from the motorized drive via the hollow shaft on the spindle shaft (1596).

As per claim 9, Petrak discloses the setting device according to claim 1, wherein the at least one elastic element is embodied as a spring screw (1596).

As per claim 10, Petrak discloses the setting device according to claim 9, wherein the at least one elastic element is arranged or embodied as a spring screw surrounding the hollow shaft concentric to the hollow shaft or the spindle shaft in its opposite direction of rotational advance (1596).

As per claim 11, Petrak discloses the setting device according to claim 1, wherein the at least one elastic element is embodied as a compression spring element (1596).

As per claim 13, Petrak discloses the setting device according to claim 5, wherein the at least one elastic element is used as a force sensor emitter for determining the brake application force of a motor vehicle parking brake (1596).

As per claim 14, Petrak discloses the setting device according to claim 5, wherein the at least one elastic element is used as a force sensor emitter for determining the brake release force of a motor vehicle parking brake (1596).

As per claim 15, Petrak discloses the setting device according to claim 1, wherein a first elastic element (1596) is loaded axially by advancing support for an axial advancing movement of the telescopic device, on application of a motor vehicle parking brake; and wherein a second elastic element (1618) is loaded axially in the other axial direction of movement of the telescopic device by advancing support, on release of the motor vehicle parking brake.

As per claim 16, Petrak discloses the setting device according to claim 15, comprising a different elasticity constant of the first elastic element by comparison with the elasticity constant of the second elastic element (1596, 1618).

As per claim 19, Petrak discloses the setting device according to claim 15, comprising an arrangement of the second elastic element axially before or after the first elastic element (Fig. 35).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6-8, 24-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Petrak (US 2003/0075001) in view of Flynn et al (US 2003/0066714).

As per claim 6, Petrak discloses the setting device according to claim 5, but does not disclose a force sensor receiver which is stationary relative to the spindle shaft and the brake cable and assigned to the force sensor emitter. Flynn et al discloses a parking brake system comprising a force sensor receiver (190; [0047]) which is stationary relative to the spindle shaft and the brake cable and assigned to the force sensor emitter. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the parking brake of Petrak by using the spring sensor assembly as taught by Flynn et al in order to provide a more accurate reading than would normally be gleaned from cable tension alone.

As per claim 7, Petrak and Flynn et al disclose the setting device according to claim 6. Flynn et al further discloses comprising an arrangement of the force sensor receiver as an integrated part of a control unit of the setting unit ([0047]).

As per claim 8, Petrak and Flynn et al disclose the setting device according to claim 7. Flynn et al further discloses wherein the control unit is arranged in the area of the telescopic device (Fig. 9).

As per claim 24, Petrak and Flynn et al disclose the setting device according to claim 6. Flynn et al further discloses wherein: the force sensor receiver is in the form of a Hall chip assigned to the magnetic force sensor emitter (190; [0047]).

As per claim 25, Petrak and Flynn et al disclose the setting device according to claim 6. Flynn et al further discloses comprising: an arrangement of the force sensor receiver as an integrated part of a control unit of the setting unit, which is accommodated by a fixed circuit board ([0047]).

Response to Arguments

11. Applicant's arguments filed 11/29/11 have been fully considered but they are not persuasive.

Applicant argues that “the claims have been made to clarify the elastic member as providing loading as well as support to the hollow shaft” (Page 7). The term “support” has been interpreted as describing the spring biasing force that is indirectly exerted on the hollow shaft.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN BOWES whose telephone number is (571)270-5787. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3657

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/STEPHEN BOWES/
Examiner, Art Unit 3657

/ROBERT A SICONOLFI/
Supervisory Patent Examiner, Art
Unit 3657